

Amdt. dated April 20, 2004
Reply to Office action of Jan. 20, 2004

Serial No. 09/457,150
Docket No. BO999009
Firm No. 0036.0036

REMARKS/ARGUMENTS

The Examiner rejected claims 1, 10, and 19 as anticipated (35 U.S.C. §102(b)) by Nakamura (U.S. Patent No. 6,075,615). Applicants traverse for the following reasons.

Claims 1, 10, and 19 concern reconfiguring multiple logical printers from using a first monitor program to using a second monitor program to communicate with one physical printer, wherein the monitor programs submit print jobs directed to a logical printer to one associated physical printer over a network, wherein at least one physical printer is capable of being associated with each logical printer, comprising: determining a plurality of logical printers; determining whether each physical printer associated with each of the plurality of logical printers is of a particular class; indicating in a data structure each logical printer associated with one physical printer of the particular class; and reconfiguring each of the plurality of logical printers indicated in the data structure to use the second monitor program to submit print jobs to one physical printer of the particular class.

Applicants amended claims 1, 10, and 19 to clarify that the monitor programs submit print jobs directed to a logical printer to one associated physical printer over a network.

The Examiner cited FIG. 3, col. 4, lines 67 and col. 5, lines 1-29 as disclosing the claim requirement of determining whether each physical printer associated with each of the plurality of logical printers is of a particular class. (Office Action, pgs. 2-3) Applicants traverse.

The cited FIG. 3 and cols. 4-5 discuss job developing units that rely on an interpreter to interpret a PostScript language for performing a rasterizing process. Nakamura mentions that the interpreter is connected to the job developing units. (Nakamura, col. 3, lines 45-55) The job developing units process the job sent from the queue before transmitting to the printer. (Nakamura, col. 4, lines 51-60). The cited col. 5 mentions that first and second printers print received rasterized data. The cited col. 5 further mentions virtual printers names registered in a printer information registering unit.

Nowhere does the cited Nakamura anywhere disclose or mention the claim requirement of determining whether each physical printer associated with each of the plurality of logical printers is of a particular class. Instead, the cited Nakamura mentions printer operations and virtual printer setting information.

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The Examiner cited FIG. 3, item 122, col. 3, lines 46-50, and col. 5, lines 1-14 as disclosing the claim requirement of indicating in a data structure each logical printer associated with one physical printer of the particular class. (Office Action, pg. 3) Applicants traverse.

The cited item 122 in FIG. 3 and col. 3 discusses a printer information registering unit having the names of pieces of virtual and physical printers. The cited col. 5 discusses submitting a print job and virtual printer setting information.

Although the cited Nakamura discusses maintaining information on logical (virtual) and physical printers, nowhere does the cited Nakamura anywhere disclose indicating in a data structure a logical printer associated one physical printer of a particular class. The cited printer information registering unit includes information on logical and physical printers. However, there is no disclosure or mention in the cited Nakamura of indicating in the data structure each logical printer associated with physical printers of a particular class. Instead, the cited printer information registering unit maintains information regardless of the printer class.

The Examiner cited FIG. 3, item 122 and col. 5, lines 1-29 as disclosing the claim requirement of reconfiguring each of the plurality of logical printers indicated in the data structure to use the second monitor program to submit print jobs to one physical printer of the particular class. (Office Action, pg. 3). Applicants traverse.

As discussed, the cited item 122 comprises a printer information registering unit having information on logical (virtual) and physical printers. Further, the cited col. 5 discusses how a job is submitted to a printer and virtual printer setting information.

Although the cited Nakamura discusses information on logical and physical printers, nowhere does the cited Nakamura anywhere disclose or mention reconfiguring logical printers indicated in the data structure from using a first monitor program to using a second monitor programs to submit jobs to the physical printers of the particular class. Nowhere does the cited Nakamura anywhere disclose or mention how to reconfigure logical printers to use a different monitor program to submit jobs to physical printers of a particular class.

Accordingly, claims 1, 10, and 19 are patentable over the cited Nakamura because the cited Nakamura does not disclose all the claim requirements.

The Examiner rejected claims 2-9, 11-18, and 20-27 as obvious (35 U.S.C. §103) over Nakamura and White (U.S. Patent No. 6,301,012). Applicants traverse for the following reasons.

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First off, claims 2-9, 11-18, and 20-27 are patentable over the cited art because they depend from one of claims 1, 10, and 19, which are patentable over the cited art for the reasons discussed above. Moreover, the following dependent claims provide additional grounds of patentability over the cited art.

Claims 2, 11, and 20 depend from claims 1, 10, and 19, respectively, and further require determining a network address of each physical printer, wherein determining whether each physical printer is of a particular class comprises using the determined network address of each physical printer to request information from the physical printer over the network, wherein the requested information indicates whether the physical printer is a member of the particular class.

The Examiner cited FIG. 1 and col. 3, lines 38-46 of White as disclosing the additional requirements of these claims. (Office Action, pgs. 3-4) Applicants traverse.

The cited col. 3 of White discusses how a printer may send a packet that announces the printer is up and running and includes information specific to the printer, such as the printer model name, etc.

Although the cited col. 3 discusses how information about a printer is announced, nowhere does the cited col. 3 of White anywhere teach or suggest requesting information from a printer over the network for the purpose of determining whether the printer is of a particular class. Instead, the cited col. 3 discusses how a printer may announce information about itself, not the claim requirement of requesting information from the printer to determine whether the printer is a member of a particular class for the purpose of reconfiguring the monitor program used by a logical printer.

Accordingly, claims 2, 11, and 20 provide additional grounds of patentability over the cited art because the cited art does not teach or suggest the additional requirements of these claims.

Claims 3, 12, and 21 depend from claims 1, 10, and 19 and further require that a port object provides an interface to a physical printer, wherein each logical printer is associated with one port object to interface with one physical printer, wherein the port monitor is associated with the port object, and wherein reconfiguring each of the plurality of logical printers to use the second monitor program comprises setting the logical printer to use one port object associated with the second port monitor to submit print jobs.

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The Examiner cited col. 2, lines 20-28 and col. 4, lines 17-28 of White as disclosing the additional requirements of these claims. (Office Action, pg. 4) Applicants traverse for the following reasons.

The cited col. 2 discusses how devices are automatically seen on a network and a communication port and queue for the device are automatically created. The cited col. 4 mentions that before accessing a print driver, plug and play software creates a communication port on a print server using the host name from the reply packet or generated port name. Further, a print queue is created on the print server.

Although the cited cols. 2 and 4 discuss how a communication port and queue are automatically created on a print server to allow communication with a printer, nowhere does the cited White anywhere teach or suggest the claim requirement of reconfiguring each of the plurality of logical printers to use the second monitor program by setting the logical printer to use one port object associated with the second port monitor to submit print jobs. Nowhere in the cited White is there any mention of reconfiguring logical printers to use port objects associated with a new, i.e., second, port monitor program to submit print jobs. Instead, the cited White mentions how a communication port is created on a print server to communicate with a printer.

Accordingly, claims 3, 12, and 21 provide additional grounds of patentability over the cited art because the cited art does not teach or suggest the additional requirements of these claims.

Claims 4, 13, and 22 depend from claims 3, 12, and 21 and further require determining a network address of each physical printer by processing a name of one port object associated with the first monitor program providing the connection between the physical printer and associated logical printer, wherein determining whether each physical printer is of a particular class comprises using the determined network address of each physical printer to request information from the physical printer over the network, wherein the requested information indicates whether the physical printer is a member of the particular class.

The Examiner cited col. 4, lines 49-54 and col. 3, lines 38-46 of White as teaching the additional requirements of these claims. (Office Action, pgs. 4-5) Applicants traverse for the following reasons.

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The cited col. 4 mentions that if a printer model has changed, then a determination is made as to whether the printer driver for that new model is registered, and if not steps are taken to register the print driver for that new model. The cited col. 3 discusses how a printer transmits information on the printer model.

Although the cited White discusses how to automatically install a new print driver if a new printer model is added and determining a printer model, nowhere does the cited White anywhere teach or suggest using information on the printer to determine whether a printer is of a particular class for the purpose of reconfiguring the logical printer from using a first monitor program to using a second monitor program to submit print jobs to the printers.

Accordingly, claims 4, 13, and 22 provide additional grounds of patentability over the cited art because the cited art does not teach or suggest the additional requirements of these claims.

Claims 6, 15, and 24 depend from claims 3, 12, and 21 and further require that reconfiguring the plurality of logical printers comprises: creating a new port associated with the second monitor program for each logical printer; and reconfiguring each of the logical printers indicated in the data structure to use the new port for printing. The Examiner cited col. 4, lines 17-58 of White as disclosing the additional requirements of these claims. (Office Action, pg. 5) Applicants traverse.

The cited col. 4 discusses how a communication port is created on the print server based on the hardware address of the printer and a print queue is created. The network plug and play software then queries the printer for additional attribute information that is sent to the spooling system to allow a client processor to send data to the printer. Further, if a printer model is changed, a determination is made if the printer driver needs to be added for that new printer model.

Although the cited col. 4 discusses how to automatically create ports and add drivers for network printers, nowhere does the cited col. 4 anywhere teach or suggest the claim requirement of creating a port associated with a second monitor program that is different than the first monitor program associated with the port that the logical printer is currently using, and then reconfiguring logical printers to use the new port and new second monitor program. In other words, the cited col. 4 nowhere teaches or mentions how to reconfigure a logical printer to from

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using a first monitor program to using a second monitor program by associating the logical printer to use the new port associated with the second monitor program. Instead, the cited col. 4 discusses how to add communication ports and print driver if the printer model changes.

Accordingly, claims 6, 15, and 24 provide additional grounds of patentability over the cited art because the cited art does not teach or suggest the additional requirements of these claims.

Claims 7, 16, and 25 depend from claims 6, 15, and 24 and further require indicating in the data structure, for each logical printer, the new port using the second monitor program, wherein the data structure is processed to determine the new port to assign to each logical printer. The Examiner cited col. 4, lines 49-65 of White as disclosing the additional requirements of these claims. (Office Action, pg. 5) Applicants traverse.

The cited col. 4 mentions how if the printer model has changed, steps are taken to install the print driver for that new model if the print driver is not already registered with the spooler. Although the cited col. 4 discusses how to update print drivers at a spooler, nowhere in the cited White is there any teaching or suggestion of indicating in a data structure a new port for a logical printer to use, such that the data structure is processed to determine the new port to assign to the logical printer. Nowhere in the cited col. 4 is there any mention of indicating in a data structure a new port for a logical printer to use for the purpose of reconfiguring the logical printer from using a first monitor program to using a second monitor program.

Accordingly, claims 7, 16, and 25 provide additional grounds of patentability over the cited art because the cited art does not teach or suggest the additional requirements of these claims.

Claims 8, 17, and 26 depend from claims 7, 16, and 25 and further require that a separate thread is initiated to perform the operations of setting the logical printers to use the new ports as indicated in the data structure. The Examiner cited col. 2, lines 20-28 as disclosing the additional requirements of these claims. (Office Action, pgs. 5-6) Applicants traverse.

The cited col. 2 discusses how to automatically configure a new peripheral device on a network and automatically create a communication port and queue for the new device. Although the cited col. 2 discusses how to automatically add a communication port and queue for a new peripheral device on a network, nowhere does the cited col. 2 anywhere teach or suggest

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initiating a separate thread to perform the operations of setting logical printers to use a new port to reconfigure the logical printer from using a first monitor program to using a second monitor program. Nowhere does the cited col. 2 of White anywhere teach or suggest initiating a separate thread for this claimed purpose.

Accordingly, claims 8, 17, and 26 provide additional grounds of patentability over the cited art because the cited art does not teach or suggest the additional requirements of these claims.

Claims 9, 18, and 27 depend from claims 6, 15, and 24 and further require determining ports associated with each logical printer that are replaced by the new port and deleting, for each logical printer, all the determined ports. The Examiner cited col. 4, lines 37-48 as teaching the additional requirements of these claims. (Office Action, pg. 6) Applicants traverse for the following reasons.

The cited col. 4 discusses how spooler configuration parameters are adjusted for a printer if configuration parameters for the printer has changed. Although the cited col. 4 discusses how to update printer configuration parameters at a spooler, nowhere in the cited col. 4 is there any teaching or suggestion of determining ports associated with logical printers replaced by new ports associated with a different monitor program, and then deleting all the determined ports. Nowhere does the cited col. 4 anywhere teach, suggest or mention replacing parameters to reconfigure the logical printer from using a first monitor program to using a second monitor program as claimed.

Accordingly, claims 9, 18, and 27 provide additional grounds of patentability over the cited art because the cited art does not teach or suggest the additional requirements of these claims.

Conclusion

For all the above reasons, Applicant submits that the pending claims 1-27 are patentable over the art of record. Applicants have not added any claims. Nonetheless, should any additional fees be required, please charge Deposit Account No. 50-0563.

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The attorney of record invites the Examiner to contact him at (310) 553-7977 if the Examiner believes such contact would advance the prosecution of the case.

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